BUCHER HYDRAULICS

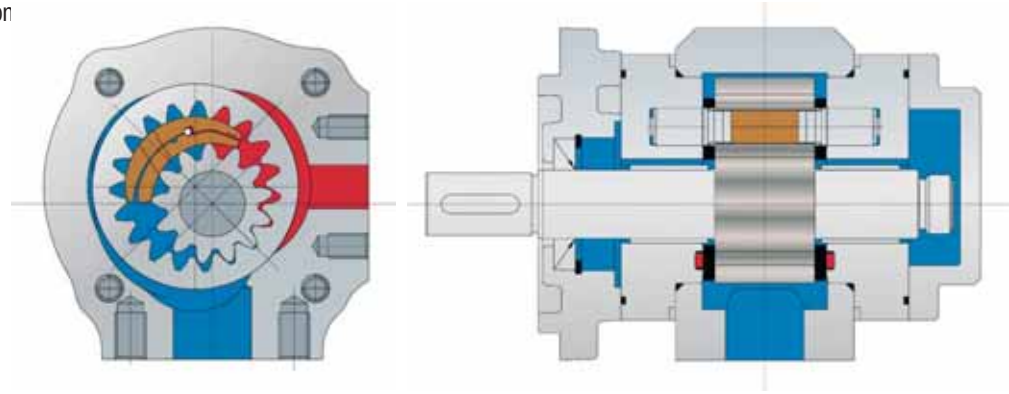
HIGH PRESSURE INTERNAL GEAR PUMPS QPH

100-P-000095-E-00 / 09.07

Internal gear pump
Type QPH 2
with constant displacement volume

Characteristics

- Internal gear pump with axial and radial gap compensation
- Radial compensation with segments
- Suction and pressure port radial
- Field of application: Industrial hydraulic
- Low noise
- Long time life
- Low pulsation (pressure pulsation ~ 2%)
- Multi flow combinations



Technical Data:

Rated Size NG	004	005	006	008	011	013	016	019	022	025
Spec. volume Vth [cm³/rev.]***	3.8	5.4	6.4	7.9	10.9	13.3	15.8	19.3	22.2	25.2
Continuous operating pressure [bar]**	330							300	250	250
Peak operating pressure [bar] max.10 sec.15% duty cycle**	350							300		280
Cut-in pressure peak [bar]**	400							325		300
Max. speed [rpm]	4,200			4,000				3,600		
Nominal speed [rpm]	400 – 4,000			400 – 3,600				400 – 3,000		
Operating viscosity [mm²/s]	10 – 300									
Starting viscosity [mm²/s]	2,000									
Operating medium	HL – HLP DIN 51 524 part 1/2									
Max. medium temperature [°C]	80									
Min. medium temperature [°C]	-20									
Max. ambient temperature [°C]	80									
Min. ambient temperature [°C]	-20									
Max. admission pressure (intake side) [bar]	2 bar absolute									
Min. admission pressure (intake side) [bar]	0.8 bar absolute (Start 0.6)									
Weight appr. [kg]	4.9	4.9	5.0	5.2	5.4	5.5	5.7	6.1	6.3	6.5
Degree of filtration	Class 20/18/15 due to ISO 4406									

Efficiency η_{vol}	90	91	92	93	93	94	95	95	95	95
Efficiency η_{hm}	88	90	90	91	92	92	93	93	93	93
Pump noise* (measured in sound chamber) dB[A]	53	54	55	57	58	59	60	61	62	63
	n = 1.450 Δp = 250 bar T = 50 °C Medium: HLP 46									
	*Measured in anechoic room ; Axial microphone distance 1.0 m									

** For acceptable pressure at 400-1.800 rpm. Further rpm on request.
*** Due to manufacturing tolerances the displacement volume could vary.

Internal gear pump
Type QPH 3
with constant displacement volume

Characteristics

The new series QPH were developed particularly for the high requirements of industrial hydraulics. Their favourable noise characteristic, extremely low delivery and pressure pulsation, outstanding efficiency within broad revolution and viscosity ranges, have firmly established gap- compensated high pressure internal gear pumps among high pressure pumps. Simple combinability to multiple pumps with separate or common inlet is given.

The QPH... is a consistent advancement that already for over 40 years in the industry used gap-compensated internal gear pump technology.

Technical Data:

Rated Size NG	014	016	020	025	032	040	050	064
Spec. volume Vth [cm³/rev.]***	14.6	16.0	20.0	24.8	32.1	40.1	50.3	64.6
Continuous operating pressure [bar]**	330					250		
Peak operating pressure [bar] max.10 sec.15% duty cycle**	350					300	280	
Cut-in pressure peak [bar]**	400					325	300	
Max. speed [rpm]	4,000			3,000		2,500	1,800	
Nominal speed [rpm]	400 – 3,600			400 – 2,800		400 – 2,200	400–1,800	
Operating viscosity [mm²/s]	10 – 300							
Starting viscosity [mm²/s]	2,000							
Operating medium	HL – HLP DIN 51 524 part 1/2							
Max. medium temperature [°C]	80							
Min. medium temperature [°C]	-20							
Max. ambient temperature [°C]	80							
Min. ambient temperature [°C]	-20							
Max. admission pressure (intake side) [bar]	2 bar absolute							
Min. admission pressure (intake side) [bar]	0.8 bar absolute (Start 0.6)							
Weight appr. [kg]	13.1	13.2	13.4	13.5	13.7	16.4	17.5	19.5
Degree of filtration	Class 20/18/15 due to ISO 4406							

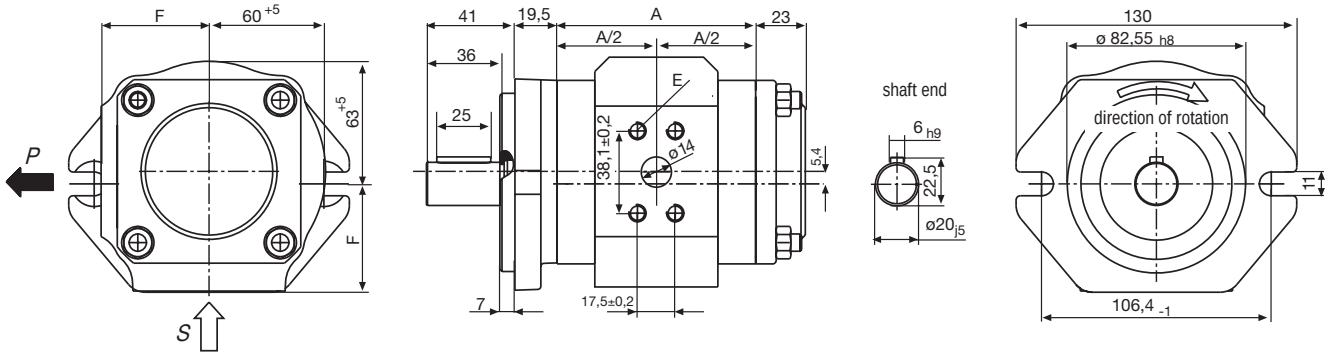
Efficiency η_{vol}	91	92	93	93	94	95	95	95
Efficiency η_{hm}	90	90	91	92	92	93	93	93
Pump noise* (measured in sound chamber) dB[A]	60	61	62	63	64	65	66	66
	n = 1.450		Δp = 250 bar		T = 50 °C		Medium: HLP 46	
	*Measured in anechoic room ; Axial microphone distance 1.0 m							

** For acceptable pressure at 400-1.800 rpm. Further rpm on request.

*** Due to manufacturing tolerances the displacement volume could vary.

Dimensions

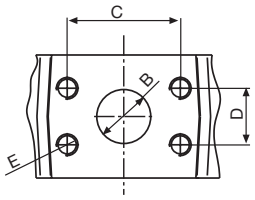
Single pump with 2-hole flange



NG	A	B	C	D	E	F
004	71	14	38.1	17.5	M8x13 deep	50
005	71	14	38.1	17.5	M8x13 deep	50
006	73	19	47.5	22.0	M10x15 deep	50
008	76	19	47.5	22.0	M10x15 deep	50
011	82	25	52.4	26.2	M10x15 deep	50
013	87	25	52.4	26.2	M10x15 deep	50
016	92	25	52.4	26.2	M10x15 deep	50
019	99	25	52.4	26.2	M10x15 deep	55.1
022	105	25	52.4	26.2	M10x15 deep	55.1
025	111	25	52.4	26.2	M10x15 deep	55.1

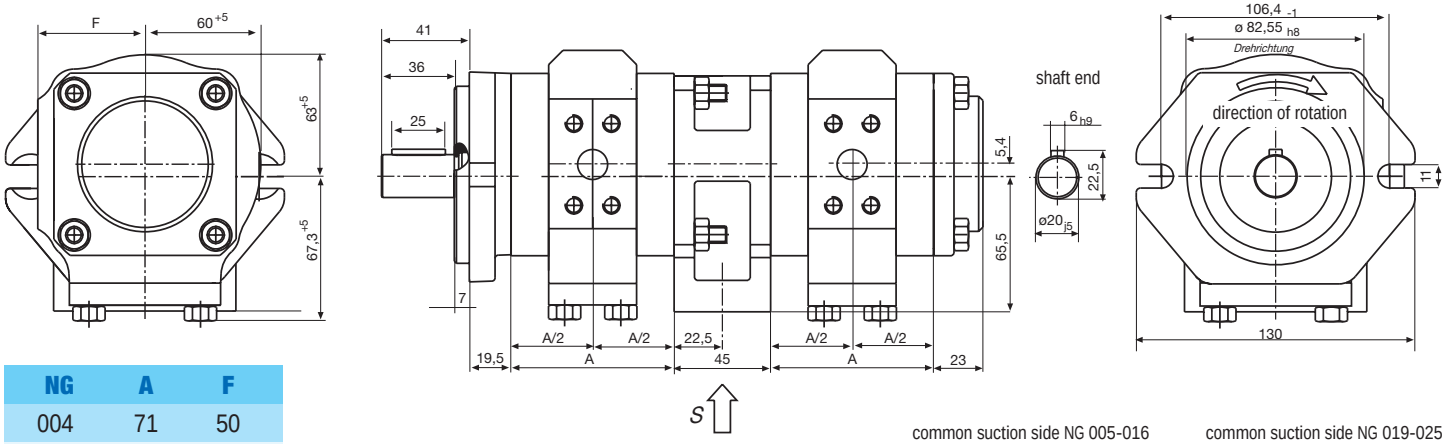
Order example: QPH2- _ _ _RK03-1X

suction side



Double Pump with SAE-B-2-hole flange and zylindrical shaft

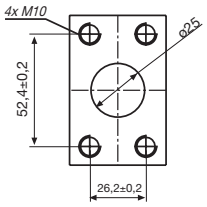
Order example: QPH2- _ _ _RK03-1X
QPH2- _ _ _RP33-1X



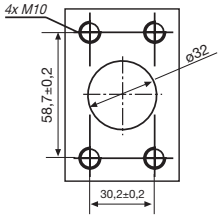
NG	A	F
004	71	50
005	71	50
006	73	50
008	76	50
011	82	50
013	87	50
016	92	50
019	99	55.1
022	105	55.1

Pressure connection see single pump

common suction side NG 005-016

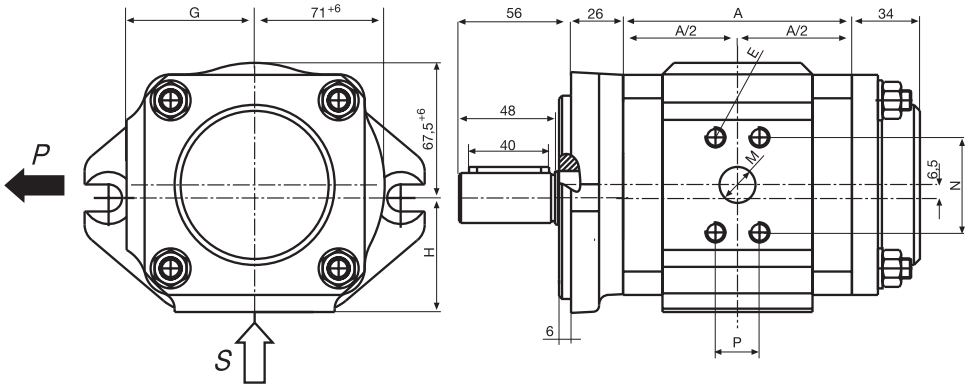


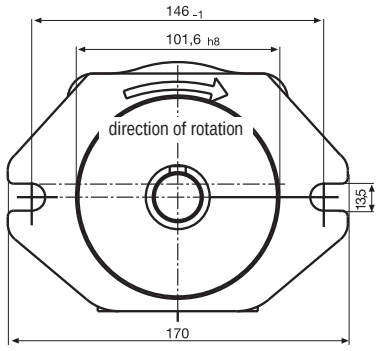
common suction side NG 019-025



Dimensions

Single pump with 2-hole flange

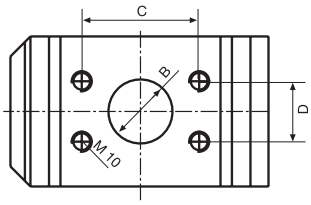




Order example: QPH3- _ _ _RK23-1X

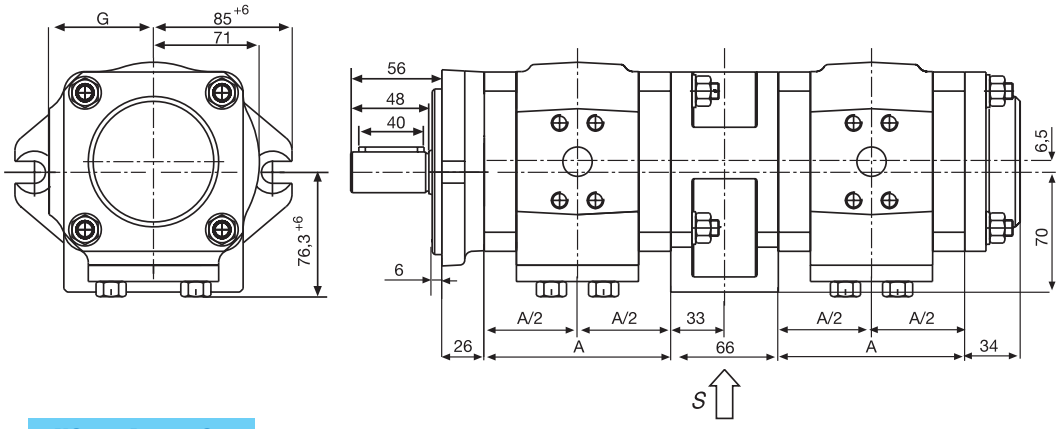
NG	A	B	C	D	E	M	N	P	G	H
014	88.4	25	52.4	26.2	M8	14	38.1	17.5	64	57
016	92.4	25	52.4	26.2	M8	14	38.1	17.5	64	57
020	97.8	32	58.7	30.2	M10	18	47.5	22	64	57
025	104.4	32	58.7	30.2	M10	18	47.5	22	64	57
032	114.4	32	58.7	30.2	M10	18	47.8	22	64	57
040	125.4	32	58.7	30.2	M10	20	52.4	26.2	70	63
050	139.4	32	58.7	30.2	M10	20	52.4	26.2	70	63

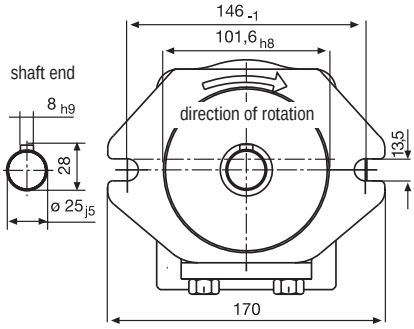
suction side



Double Pump with SAE-B-2-hole flange and zylindrical shaft

Order example: QPH3- _ _ _RK23-1X
QPH3- _ _ _RP33-1X

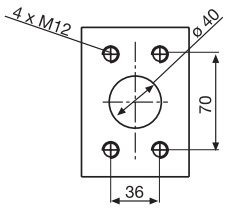




NG	A	G
014	88.4	64
016	92.4	64
020	97.8	64
025	104.4	64
032	114.4	64
040	125.4	70
050	139.4	70

Pressure connection see single pump

suction side



Ordering Code

QP H2 - 016 RK03 - 10 S123

- Special version number (not applicable with standard pumps or when the type key is unambiguous)
- Revision code 1st number: Change of mounting dimensions
  2nd number: Change of pump with same mounting dimensions
- Intake and delivery connection 3: SAE-flange connections
  – other flanges on request –
  0: suction port closed; common inlet
- Fastening flange 0: SAE/A 2-hole flange, centre-Ø 82.55
  2: SAE/B 2-hole flange, centre-Ø 101.6 / at EIPH6 Ø152,4
  3: Direkt fixture
  5: VDMA on demand
  – other flanges on request –
- Shaft end K: Cylindrical with cone
  P: Cone tooth system on both sides
  cone is standard;
  (cone = add-on facility for additional pumps to create multiple-flow pumps)
- Sense of rotation R: Clockwise
  L: Anticlockwise
- Rated size, three digits
- Overall size 2 or 3 or 6
- Type H: High pressure pump
- internal gear pump

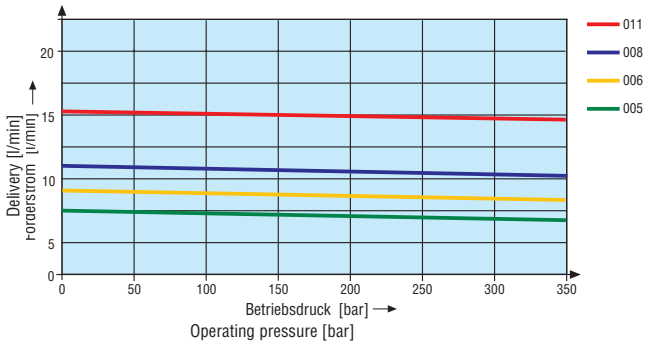
Order example

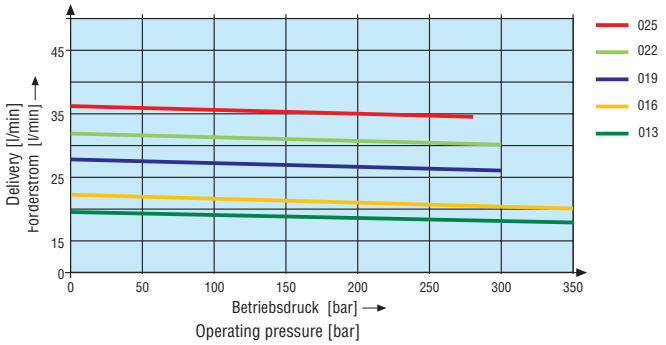
QPH2 - 016 RK03 - 1X

High pressure pump
overall size 2 with 15,8 cm^3/U
clockwise rotation
cylindrical shaft with cone
SAE/B-2-hole flange connection
SAE flange connection
revision code 10

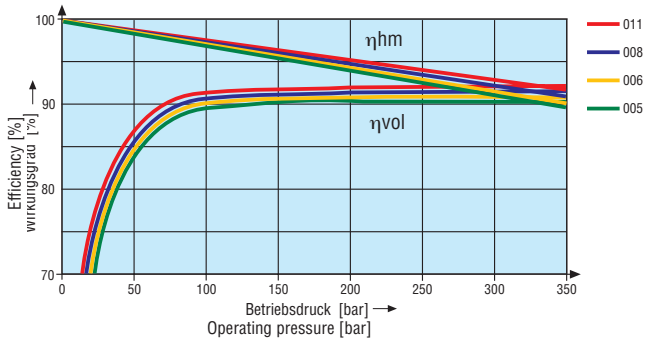
Kennlinien
Characteristics QPH 2

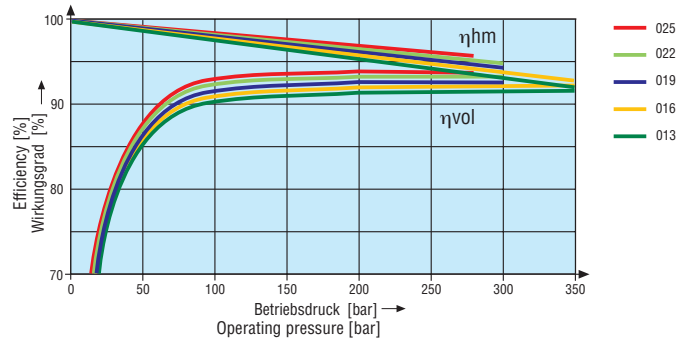
Volumenstrom/ Volumetric flow



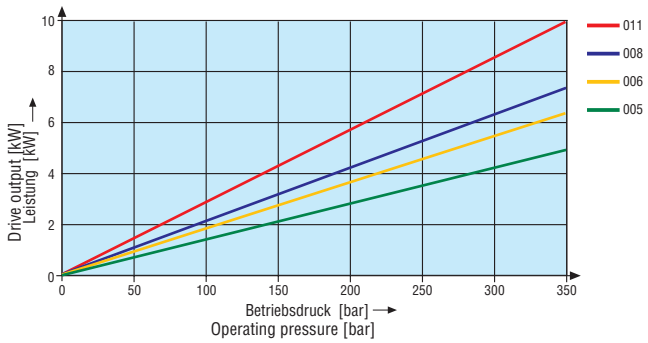


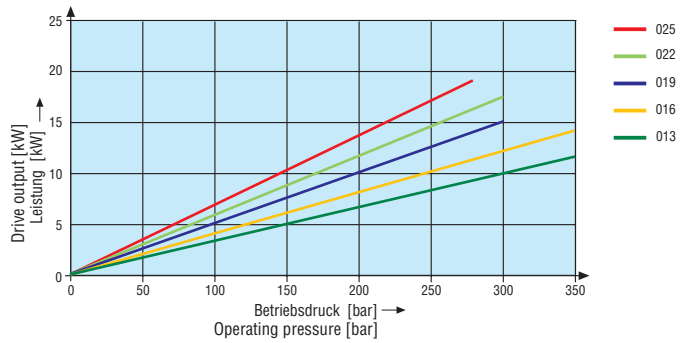
Wirkungsgrad/ Efficiency



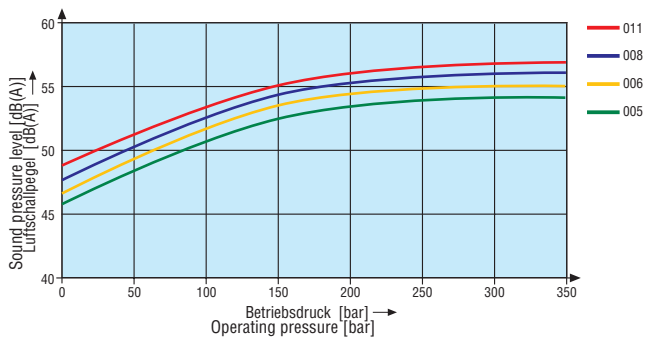


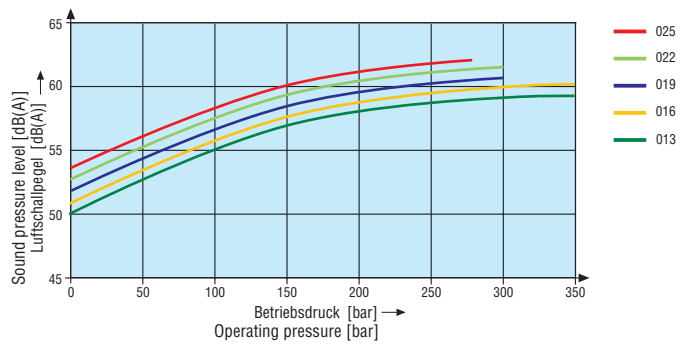
Antriebsleistung/ Drive output





Schalldruckpegel/ Sound pressure level

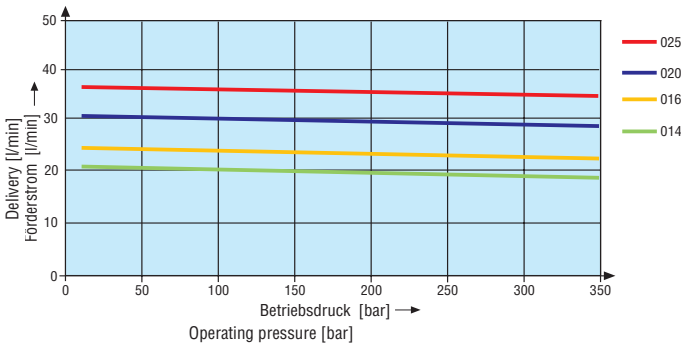


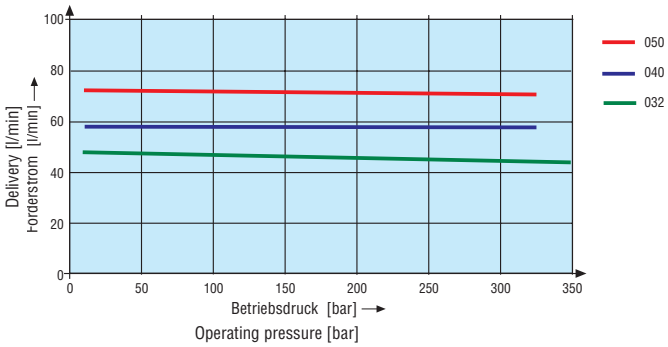


Meßbedingungen: Drehzahl 1450 min^{-1}, Viskosität 46 mm^2/sek., Betriebstemperatur 40 °C
Schalldruck gemessen im reflexionsarmen Schallmessraum in Anlehnung an DIN 45 635 Blatt 26; Mikrofonabstand: 1,0 m axial

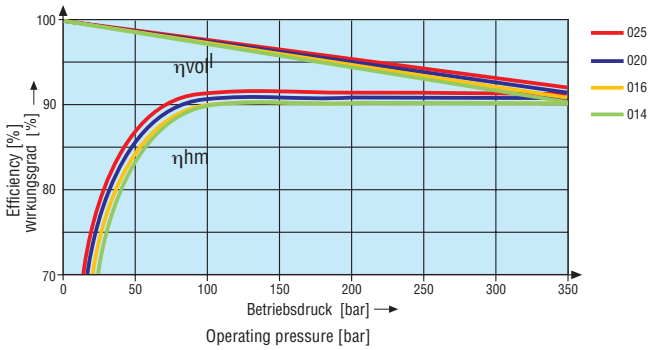
Kennlinien
Characteristics QPH 3

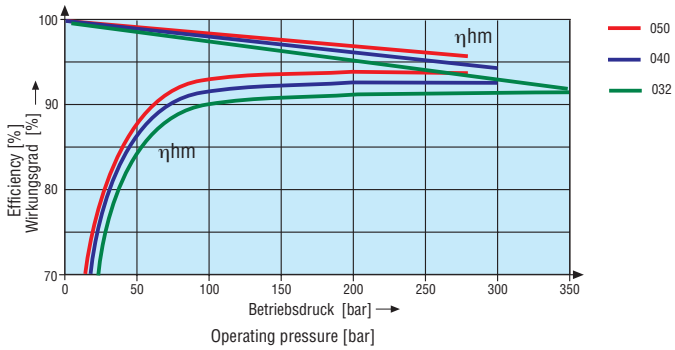
Volumenstrom/ Volumetric flow



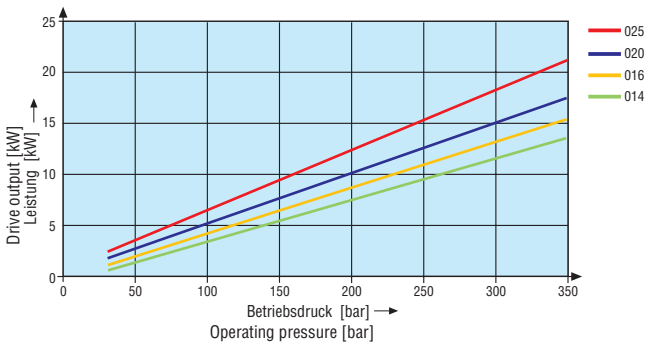


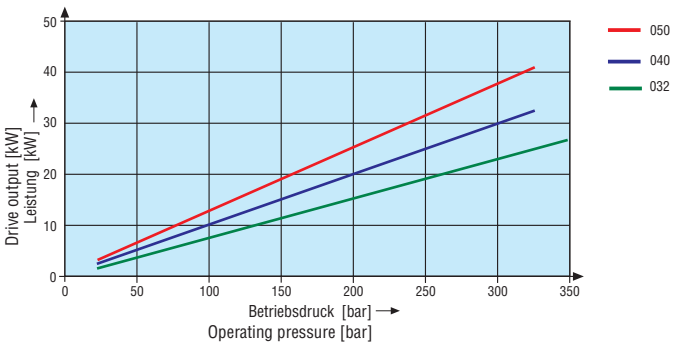
Wirkungsgrad/ Efficiency



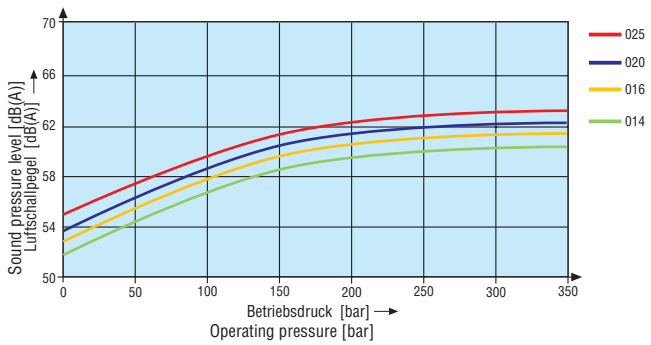


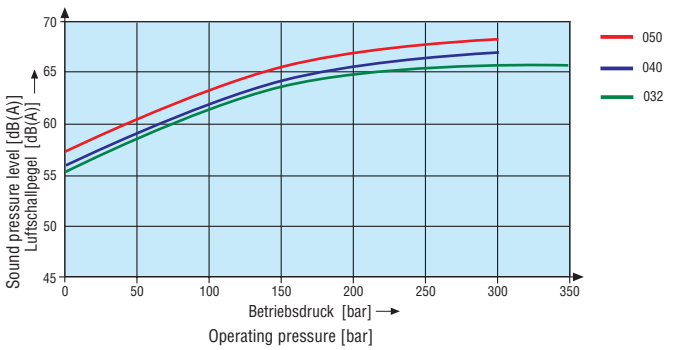
Antriebsleistung/ Drive output





Schalldruckpegel/ Sound pressure level





Meausurement conditions: Speed 1450 rpm, viscosity 46 mm²/sec., operating temperature 40 °C
Sound pressure measured in low-reflection anechoic room in accordance with DIN 45 635 sheet 26;
Microphone distance 1.0 m axial.

Alle angegebenen Daten dienen allein der Produktbeschreibung und sind nicht als zugesicherte Eigenschaften im rechtlichen Sinne zu verstehen. Technische Änderungen vorbehalten.